

Table 2. Data quality objectives and indicators, and measurement quality objectives for water quality monitoring. RPD = relative percent difference between the results for each pair of duplicates. "EPA Method" refers to Methods for Chemical Analysis of Water and Wastes (USEPA 1983). "Standard Method" refers to Standard Methods for the Examination of Water and Wastewater (19th ed., APHA et al. 1995).

Parameter	Parameter subgroup	Sampling technique	Analysis technique	Analysis location	Method detection limit for given reporting unit	Measurement range *	Duplicate precision (RPD)	Accuracy (% recovery for spiked samples)	Report limit
Dissolved oxygen (instantaneous)	--	Hanna field meter	field	field	1.0 mg/L	1 - 19.99 mg/L	field: $\pm 15\%$ (1.0-5.0 mg/L) ; $\pm 20\%$ (5.1-11.0 mg/L) ; and $\pm 25\%$ ( $>11.0$ mg/L)	--	1.0 mg/L
Specific conductance	--	Hanna field meter	field	field	0.0 $\mu$ S/cm	1-200,000 $\mu$ S/cm	field: $\pm 15\%$	--	1/10 $\mu$ S/cm for 0-1,500 /1,500-15,000 $\mu$ S/cm range, respectively
Temperature (instantaneous)	--	Hanna field meter	field	field	0 °C	0 - 50 °C	field: $\pm 15\%$	--	0.1 °C
pH	--	HOBO Water Temp Pro	download onto computer using HOBO Ware Pro v.2.3.0	field	0.00	1-14	field: $\pm 7\%$	--	0.01
Temperature (continuous)	--	HOBO Water Temp Pro	download onto computer using HOBO Ware Pro v.2.3.0	field	0.2 °C	(-20) - 70 °C	--	--	0.0 °C
Flow velocity (average)	--	Global flow meter	field	field	10 cm/sec	9-180 cm/sec	field: $\pm 15\%$	--	0.9 cm/sec

Nitrogen	TKN	grab sample	Lachat 10-107-06-2-E	HETL	0.04 mg/L	0.1-5 $\mu$ g/L	field: $\pm 30\%$ lab: $\pm 10\%$	lab: $\pm 30\%$	0.1 mg/L
	NO <sub>2</sub> -NO <sub>3</sub>		Lachat 10-107-04-1-C		0.001 mg/L	0.01-2 mg/L	field: $\pm 30\%$ lab: $\pm 10\%$	lab: $\pm 10\%$	0.01 mg/L
	NH <sub>3</sub>		Lachat 10-107-06-1-B		0.01 mg/L	0.01-1 mg/L	field: $\pm 30\%$ lab: $\pm 10\%$	lab: $\pm 10\%$	0.01 mg/L
Phosphorus	Total-P	grab sample	Lachat 10-115-01-1-F	HETL	0.0002 mg/L	0.001-0.2 mg/L	field: $\pm 30\%$ lab: $\pm 10\%$	lab: $\pm 30\%$	0.001 mg/L
	SRP		Lachat 10-115-01-1-B		0.0002 mg/L	0.001-0.2 mg/L	field: $\pm 30\%$ lab: $\pm 10\%$	lab: $\pm 10\%$	0.01 mg/L
Chlorophyll <i>a</i>	--	grab sample	Standard Method 10200H	HETL	0.001 mg/L	0.001-0.178 mg/L	field: $\pm 30\%$ lab: $\pm 15\%$	--	0.001 mg/L
Total suspended solids	--	grab sample	Method 2540 D (APHA et al. 1995)	HETL	2 mg/L	2-200 mg/L	field: $\pm 30\%$ lab: $\pm 10\%$	--	2 mg/L

Table 2, continued

Parameter	Parameter subgroup	Sampling technique	Analysis technique	Analysis location	Method detection limit for given reporting unit	Measurement range*	Duplicate precision (RPD)	Accuracy (% recovery for spiked samples)	Report limit
Dissolved organic carbon	--	grab sample	Standard Method 5310C	HETL	1 mg/L	1-10 mg/L	field: $\pm$ 30% lab: $\pm$ 15%	lab: $\pm$ 15%	1 mg/L
Chloride	--	grab sample	Lachat 1-117-07-1-A	HETL	0.25 mg/L	3-300 mg/L	field: $\pm$ 30% lab: $\pm$ 10%	lab: $\pm$ 10%	3 mg/L
Alkalinity (CaCO <sub>3</sub> )	--	grab sample	Standard Method 2320B	HETL	0 mg/L	all conc.ranges	field: $\pm$ 30% lab: $\pm$ 10%	lab: $\pm$ 10%	0 mg/L
True Color	--	grab sample	Lachat 10-308-00-1-A	HETL	5 color units	5-50 color units	field: $\pm$ 30% lab: $\pm$ 10%	lab: $\pm$ 10%	5 color units
pH	--	grab sample	Standard Method 4500 H+B	HETL	0.1 pH units	0-14 pH units	field: $\pm$ 30% lab: $\pm$ 10%	--	0-14 pH units
Specific Conductance	--	grab sample	Standard Method 2510B	HETL		all conc.ranges	field: $\pm$ 30% lab: $\pm$ 10%	--	
Silicon, dissolved silica	--	grab sample	Dissolved Silica Preparation Step; EPA Method 200.7	HETL	0.05 mg/L	100 mg/L	field: $\pm$ 30% lab: $\pm$ 10%	lab: $\pm$ 30%	0.05 mg/L

\* The upper limit for lab-analyzed parameters can usually be circumvented by diluting the sample, rerunning it, and multiplying the new result by the dilution factor.